TIMOTHY R. PANNKUK

Assistant Professor

Department of Agricultural Sciences & Engineering Technology

Sam Houston State University

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**Formal Education**

Doctor of Philosophy, Agronomy, Aug 2009, Texas A&M University, College Station, TX

Dissertation title: Evapotranspiration and leachate Quality of Warm-

Season Turf and Native grasses under Different Texas Landscape Climates

Master of Science, Horticulture, Aug 1995, Texas A&M University College Station, TX

Thesis title: Growth of New Guinea impatiens under no-leach drip irrigation

Bachelor of Science, Horticulture, May 1990, Texas A&M University College Station, TX

**Professional Experience**

* Assistant Professor, Department of Agricultural Sciences and Engineering Technology, Sam Houston State University, 2009 – present
  + RESEARCH
    - Conduct research in landscape water use with focus on the water use relationship compared local evapotranspiration, and on landscape water leachate quality.
    - Conduct research on hybrid bermudagrasses used on athletic fields.
    - Other research studies include characterizing residential outdoor water use, effects of herbicides on selected ornamental plants, and strengthening collaborations between landscape industry and universities.
  + TEACHING
    - AGRI 2395 Ornamental Plant Identification
    - AGRI 3374 Production & Management of Ornamentals
    - AGRI 3379 Turfgrass Culture
    - AGRI 3395 Plant Propagation
    - AGRI 3398 Landscape Design
    - AGRI 3440 Soil Science
    - AGRI 4368 Landscape Design II (Landscape Operations)
    - AGRI 4372 Sports Turf Management
    - AGRI 4397 Integrated Pest Management
    - AGRI 5394 Applied Horticultural Sciences (Environmental Horticulture)
  + SERVICE
    - Faculty Advisor – Horticulture & Crop Science Club, 2009 – present
    - Academic Advising
    - Committees
      * Department – FES, Scholarship, Ag Development, Curriculum, Horticulture Facility Planning, Departmental Marketing, SAFE, and AET Faculty Search
      * College – Undergraduate Research Awards and Farrington Space Utilization
      * University - Parking Appeals, Student Organizational Board, and Student Disciplinary Hearing
      * Crop Science Society America – K-12 and Fred Grau Research Award
      * Texas Chapter American Society of Agonomy – board member
    - Reviewer
      * HortScience – primarily, U.S. Geologic Survey, HortTechnology
    - Texas FFA Career Development Events
      * Area XI & State Contests for Nursery/Landscape 2009-2014
    - Directed Studies & Special Topics
      * AGRI 4100, AGRI 4396, AGRI 5364
    - Graduate student committees
    - Recruiting
      * EXCEL at Sam, TX Nursery & Landscape Expo, LSC
* Lecturer, Department of Agricultural & Industrial Sciences, Sam Houston State University, 2002 – 2008
  + TEACHING
    - AGR 165 Plant Science
    - AGR 235 Horticulture for the Home (deleted course)
    - AGR 274 Production & Management of Ornamentals
    - AGR 295 Ornamental Plant Identification
    - AGR 375 Turfgrass Science
    - AGR 379 Turfgrass Culture (created this course)
    - AGR 395 Plant Propagation
    - AGR 398 Landscape Design
    - AGR 344 Soil Science
    - AGR 472 Sports Turf Management (created this course)
    - AGR 497 Integrated Pest Management
  + SERVICE
    - Faculty Advisor – Horticulture & Crop Science Club
    - Texas FFA Career Development Events
      * Area XI & State Contests for Nursery/Landscape
    - Texas Chapter of American Society of Agronomy
* RESEARCH
* PhD dissertation research, assistant committee members in their research
* Sales, Bunch Wholesale Inc., Texarkana, TX, 2001
* Grower, Colorspot Nurseries, Waco, TX, 1998-2001
* Grower, Neal Robinson’s Wholesale Nursery, Brownsville, TX, 1997
* Grower, Turkey Creek Farms, Humble TX, 1995-1997
* Graduate Research & Teaching Assistant, Department of Horticultural Sciences, Texas A&M University, College Station, TX, 1993-1995
* Specialist, Chemlawn Corp., San Antonio, TX, 1990-1992

**Peer Reviewed Publications**

**Pannkuk, T.** 2014. Plant Factors for Irrigating Mixed Turfgrass and Shrub Landscapes in a Humid Environment. HortTechnology [accepted with reviewers edits]

**Pannkuk, T.** and A. Wolfskill. 2014. Residential outdoor water use in one East Texas Community. Texas Water Journal. [in review]

Wherley, B., **T. Pannkuk**, R. Cabrera, C. Campos. Off-Target Injury to Southern Landscape Species Following Aminocyclopyrachlor Applications. J. Envir. Hort. 31(3):189-193. September 2013.

**Pannkuk, T.** 2012. A Taxonomic Key for Selected Turf-Type Bermudagrasses. TX J. Agri. & Nat. Resources 24:83-87.

**Pannkuk, T.**, J. Aitkenhead-Peterson, K. Steinke, J. Thomas, D. Chalmers, and R. White. 2011. Carbon, Nitrogen, and Orthophosphate Leaching from Soil under Single- and Mixed-Species Landscapes. HortScience 46(11):1533-1539

**Pannkuk, T.** and D. Fazzaro. 2011. Strengthening Collaborations with Landscaping Industry and Department of Agricultural Sciences: Using Structured Group Interview Approach for Enhancing the 21st Century Workforce. Online Journal of Workforce Education and Development. Vol. V Issue 2 – Summer 2011.

**Pannkuk, T.**, R. White, K. Steinke, J. Aitkenhead-Peterson, D. Chalmers, and J. Thomas. 2010. Landscape Coefficients of Single- and Mixed-Species Landscapes. HortScience 45(10):1529-1533.

Fazarro, D., **T. Pannkuk**, D. Pavelock, and D. Hubbard. 2009. The effectiveness of instructional methods based on learning style preferences of agricultural students: a research tool for continuous improvement for faculty in career and technical programs. Journal of Industrial Teacher Education. 45(3):84-104.

Wingenbach, G., J. White, S. Degenhart, **T.** **Pannkuk**, and J. Smith. 2006. Pre-service teachers’ knowledge and teaching comfort levels for applied agricultural science and technology area objectives.Journal of Agricultural Education. 48(2):114-126

Lang, H. and **T. Pannkuk**. 1998. Effects of fertilizer concentration and minimum-leach drip irrigation on the growth of New Guinea Impatiens. Hortscience 33 (4):600-606.

**Presentations, Posters and Proceedings/Abstracts**

Ferrell, K., **T. Pannkuk**, and M. Anderson. Texas Sustainable Agriculture and Food Environments Program: Producer Perceptions. Crop Science Society International Annual Meeting. Long Beach, CA. (Nov 3, 2014)

**Pannkuk, T.** and R. Lane. Effects of organic nitrogen source on growth of five cultivars of St. Augustinegrass. American Society Horticultural Sciences. Orlando, FL. (Jul 30, 2014).

**Pannkuk, T.** and R. Smith. Poster. Nutrient Leaching from Soil in Mixed Turfgrass and Woody Plant Landscapes. American Society of Agronomy, Tampa, FL. (Nov 4, 2013).

**Pannkuk, T.** Poster. Landscape Coefficients of Mixed Turf and Woody Plant Landscapes. American Society of Horticultural Sciences Annual Meeting, Palm Desert, CA. (Jul 24, 2013).

**Pannkuk, T**. Poster. Landscape Coefficients of Mixed Turf and Woody Plant Landscapes. Soil and Crop Science Societies of America Annual Meeting, Cincinnati, OH. (Oct 24, 2012).

**Pannkuk, T**. Poster. Landscape Coefficients of Mixed Turf and Woody Plant Landscapes. Soil and Crop Science Societies of America Annual Meeting, San Antonio, TX. Oct 17, 2011.

**Pannkuk, T.**, J. Aitkenhead-Peterson, K. Steinke, J. Thomas, D. Chalmers, and R. White. Poster. Leachate Chemistry from Soil under Turf and Nativegrasses in Southern Texas. Soil and Crop Science Society of America Annual Meeting, Pittsburgh, PA. Nov 1-5, 2009

**Pannkuk, T.**, K. Steinke, J. Aitkenhead-Peterson, J. Thomas, R. White, and D. Chalmers. 2008. Presentation. Landscape coefficients of newly planted mixed- andsSingle-species urban landscapes. Poster. Joint Meeting - Geologic Society, Crop Science Society, and Soil Science Society. Houston, TX Oct 6, 2008.

**Pannkuk**, **T.**, G. Wingenbach, S. Degenhart, J. White, and J. Smith. Abstract. Relationship of student teachers’ knowledge and teaching comfort levels with agricultural science and technology objectives. NACTA 2006 Annual Conference, Vancouver, BC.

White, J., G. Wingenbach, S. Degenhart, J. Smith, and **T. Pannkuk**. Abstract. Five-iteration online survey method replicates response-pattern curves seen by other researchers. NACTA Journal 50(2).

Degenhart, S., **T. Pannkuk**, J. White, J. Smith, and G. Wingenbach. Abstract. Relationship of student teachers’ knowledge and teaching comfort levels with agricultural science and technology objectives. Proceedings of the 33rd Annual National Conference of the American Association for Agricultural Education, Charlotte, NC. 2006.

White, R., R. Havlak, J. Nations, J. Thomas, D. Chalmers, **T. Pannkuk** and D. Dewey. Conference Proceedings. How Much Water Is ‘Enough’? Using PET To Develop Water Budgets For Residential Landscapes. Texas Section of the American Water Works Association. Arlington, TX April 8, 2004.

**Non-Peer Reviewed Publications**

**Pannkuk, T.** Four e-mails during Aug and Sept to about 1200 residents of Elkins Lake Subdivision. E-mails provided educational outreach on landscape water conservation. This was coordinated with the general manager of the subdivision and the Public Utilities director of the City of Huntsville.

Landscape Coeficients Prove Useful for Urban Water Conservation Efforts. June 10, 2011. HighBeam Research. (press release)

Landscape Coefficients Prove Useful for Urban Water Conservation Efforts; New Strategies Provide Important Irrigation Information, Promote Water Savings. June 23, 2011. ScienceDaily. (press release)

Landscape Coefficients Prove Useful for Urban Water Conservation Efforts. June 23, 2011. eScienceNews. (press release)

Landscape Coefficients Prove Useful for Urban Water Conservation Efforts. June 23, 2011. Bio-Medicine. (press release)

Landscape coefficients prove useful for urban water conservation efforts. June 27, 2011. TerraDaily. (press release)

**Non-Peer Reviewed Presentations**

Ehlert, T. and **T. Pannkuk.** Poster. Effects of Flurprimidol on Impatiens. 6th Annual Undergraduate Research Symposium. SHSU. April 20, 2013.

**Pannkuk, T.** Turfgrass Management. Four hour training module. Grimes County Master Gardeners. Navasota, TX. April 30th, 2013.

**Pannkuk, T.** Four e-mails during Aug and Sept to about 1200 residents of Elkins Lake Subdivision. E-mails provided educational outreach on landscape water conservation. This was coordinated with the general manager of the subdivision and the Public Utilities director of the City of Huntsville.

**Pannkuk, T**. Tree & Shrub Rehabilitation WorkShop. Texas AgriLife - Walker County. Feb 2012.

**Pannkuk, T.** Landscape water conservation techniques. Presentation. Elkins Lake Recreation Corporation members. July 28, 2011.

**Pannkuk, T.** Horticulture – what is it? Presented to Junior High School students from the Spring Branch ISD. Huntsville, TX June 11, 2010.

**Pannkuk TR**. Soil Formative Processes. Texas Agri-Science Teachers TEKS Workshop sponsored by SHSU. Huntsville, TX. June 16, 2010

**Pannkuk, T.**, Steinke K, White RH, Chalmers DR, Aitkenhead-Peterson JA. Poster. Landscape Coefficients of Newly Planted Mixed- and Single- Species Landscapes. Agricultural Sciences Centennial Celebration. Huntsville, TX. Sept 2009.

**Grants and Funding Received**

**Pannkuk, T.** and M. Anderson. NIFA/USDA. Online Master’s Degree in Alternative Agriculture Systems. Awarded Sept 2013. $291,092 over three years (Sep ’13 – Aug ’16).

**Pannkuk, T**. Apr 2012. Establish new turfgrass research plots. SHSU College of Sciences. $11,000.

Wherley, B. and **T. Pannkuk**. Jan 2012. Evaluate effects of elevated application rates of MAT28 products on potted ornamental plants in Texas. TexasAgriLife $72,000 ($23,000 to SHSU).

Hammond, R. and **T. Pannkuk**. Mar 2011. Landscape Coefficients of Turfgrass and Woody Plant Combinations. Texas Water Resources Institute. $5000

**Pannkuk, T.** and D. Kingman. Fall 2009. Graduate research grant for weather

station construction. SHSU Department of Graduate Studies. Huntsville, TX. $2347.

**Pannkuk, T**. 2009. Graduate research grant for data acquisition equipment. SHSU Department of Graduate Studies. Huntsville, TX. $4457. Fall 2009.

**Pannkuk, T**. and R. White. 2007. A Comparison of Actual and Reference Evapotranspiration between Mixed Grassy and Woody Landscapes under Different Texas Climates. Texas Nursery & Landscape Association. Austin, TX. $7600. Dec 2007 – Aug 2008.

Ullrich, D., D. Pavelock, and **T.** **Pannkuk.** 2006. 2007 Horticulture Certification Workshop. Texas Education Agency. Austin, TX. $13,000. September 1, 2006 - August 31, 2007.

Ullrich, D., D. Pavelock,and **T. Pannkuk**. 2004. Horticulture Certification Workshop. Austin, TX: Texas Education Agency. $13,000.

Ullrich, D., D. Pavelock, and **T. Pannkuk**. 2003. Horticulture Certification Workshop. Austin, TX: Texas Education Agency. $15,000.

**Internally Funded Grants**

**Pannkuk, T.** Department of Agricultural Sciences & Engineering Technology. Agriculture Development Committee. $430. Nov 2014. Funds to calibrate components of weather station.

**Pannkuk, T.** Department of Agricultural & Industrial Sciences. Agriculture Development Committee. $301. Mar 2013. Supplies to conduct undergraduate research project.

**Pannkuk, T.** Department of Agricultural & Industrial Sciences. Agriculture Development Committee. $800. Oct 2012. Purchase of disposables for nutrient analysis of leachate samples from lysimeter experiment – analysis underway at T.R.I.E.S. lab.

**Pannkuk, T**. Feb 2010. Effects of fulvic acid and humic acid treatments on hybrid bermudagrass color and density. Affiliated Minerals, Inc. $12634

**Pannkuk, T**. 2010. Construction of Research Lysimeters for Landscape Water Use Experiments. Faculty Research Grant 2010 – Office of Research and Sponsored Programs. $5000

**Pannkuk, T**. May 2010. Landscape Coefficients of Turfgrass and Woody Plant Combinations. Turfgrass Producers of Texas. $1000

**Pannkuk, T**. 2010. Landscape Coefficients of Woody Plant Combinations. Application 287-HRI. Horticultural Research Institute. $5000

**Non-Funded Research**

**Pannkuk, T.** and R. Lane. St. Augustinegrass nutritional study at turf plots at Gibbs Ranch. This replicated, multi-treatment field study is ongoing.

**Pannkuk, T.** Landscape coefficients of mixed species landscapes. Multi-treatment, multi-year use of lysimeters and scientific equipment at the SHSU Horticulture Center. Constructed/installed fall, winter, spring 2010-2011. The goal is to continue data collection/analysis for another 4-5 years, or until the university converts this site to intramural fields. The data includes: 1) plant water use compared to local evapotranspiration data, and 2) leachate water analyzed for nutrient concentrations and fluxes

**Pannkuk, T.** and A. Wolfskill. Landscape water conservation data analysis and educational outreach to about 1200 residents in Huntsville, TX. This started in 2012 and is a coordinated effort between the authors, City of Huntsville Public Utilities, and Elkins Lake management.

**Professional Memberships**

American Society of Agronomy

American Society of Horticultural Sciences

Crop Science Society of America

Sigma Xi (2009-2011)

Turfgrass Producers of Texas

Texas Chapter American Society of Agronomy (2003-2010)

Texas Nursery and Landscape Association

**Professional Development**

Agronomy, Crop Science, and Soil Science Societies of America annual national meetings. 2008-2014

American Society of Horticultural Sciences annual national meeting. 2013, 2014